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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,685	12/05/2001	Janne Haavisto	442-010740-US(PAR)	7613
2512	7590	07/25/2006	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			LAM, HUNG H	
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			2622	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/004,685	Applicant(s) HAAVISTO, JANNE	
	Examiner Hung H. Lam	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/25/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments, filed on 04/25/06, have been entered and made of record. Claims 21-22 are added. Claims 1-22 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 2, 11-12 and 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis (7,010,144).

With regarding to **claim 1**, Davis discloses a method for the transmission of data between a camera module and an electronic device (Fig. 1; see the connections between camera 10 and other electronics device; Col. 4, Ln. 12-34), said method comprising the steps of generating image data in the image sensor of the camera module (Figs. 1; camera 10), said image sensor comprising at least one row of pixels, and said image data comprising the data generated by said

row of pixels (the image sensor 16 inherently includes at least one row of pixels and generates image data from the row of pixel), and collecting statistical data from the image data (Col. 2, Ln. 15-55 wherein statistical data is interpreted as various form of data that are associated with image data; Davis further teaches that the image capturing device enable users to specify the types of data as well as specific items of data to be associated with captured images captured in it), wherein the method further comprises: transmitting said image data and said statistical data from the camera module to the electronic device essentially at the same time (Col. 4, Ln. 12-34).

With regarding to **claim 2**, Davis discloses a method wherein said image data and said statistical data are transmitted interlaced with each other on at least one common bus (Col. 4, Ln. 12-34).

With regarding to **claim 11**, Davis discloses a device comprising a camera module and an electronic device (Fig. 1; see the connections between camera 10 and other electronics device; Col. 4, Ln. 12-34), comprising means for generating image data in the image sensor of the camera module (Figs. 1; camera 10), said image sensor comprising at least one row of pixels and said image data comprising the data generated by said rows of pixels (the image sensor 16 inherently includes at least one row of pixels and generates image data from the row of pixel), means for collecting statistical data on said image data (Col. 2, Ln. 15-55 wherein statistical data is interpreted as various form of data that are associated with image data; Davis further teaches that the image capturing device enable users to specify the types of data as well as specific items of data to be associated with captured images), wherein the device further

comprises means for transmitting image data and statistical data from the camera module to the electronic device essentially at the same time (Col. 4, Ln. 12-34).

With regarding to **claim 12**, Davis discloses the same limitations as recited in claim 3. Therefore, claim 12 is analyzed and rejected as discussed in claim 3.

With regarding to **claim 15**, Davis discloses the same subject matter as claimed in claim 11. Further more, Davis discloses a device wherein the device also comprises means for generating an image-processing parameter from the transmitted statistical data (Col. 2, Ln. 15-Col. 3, Ln.29; Col. 4, Ln. 50-59).

With regarding to **claim 16**, Davis discloses a device, wherein in addition, the device comprises means for image data processing to process the transmitted image data based on said image-processing parameter (Col. 4, Ln. 50-59).

With regarding to **claim 17**, Davis discloses a device wherein said means for image data processing have been implemented for processing the image to be generated (Col. 3, Ln. 48-Col. 4, Ln. 11; Col. 4, Ln. 50-59).

With regarding to **claim 18**, Davis discloses a device wherein said means for image data processing have additionally been implemented to control the image sensor in acquiring the next image (Col. 4, Ln. 50-59; Col. 6, Ln. 19-55).

With regarding to **claim 19**, Davis discloses a device wherein said device comprising said camera module and said electronic device is a mobile communications terminal (Fig. 2; Col. 4, Ln. 35-68).

Claim Rejections - 35 USC § 103

5. Claims 3-5, 7-10, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis.

With regarding to **claim 3**, Davis discloses a method wherein said image data and said statistical data are transmitted in the same data frame (Fig. 3), said data frame comprising at least one image data unit at least one statistical data unit (Col. 4, Ln. 13-35; Col. 11, Ln. 42-Col. 12, Ln. 68). However, Davis fails to disclose the data frame comprising at least one synchronization code to separate said image data unit from said statistical data unit.

Official Notice is taken that it is well known and expected in the art to add a specific synchronization pattern, or sequence to the leading end or both the leading and trailing ends of each block of data or frame in order to transmit numerous data links between integrated circuit. Therefore, it would have been obvious to one of ordinary skill in the art to modify the device of Davis to include at least one synchronization code in order to separate each block of image data and statistical data unit and thereby improving the way of identifying individual block of data in according to the recognized synchronization codes.

As Applicant has not traversed the old and well known statement set forth above, “the data frame comprising at least one at least one synchronization code to separate said image data unit from said statistical data unit” is now taken as admitted prior art. See MPEP 2144.03(c).

With regarding to **claim 4**, Davis discloses a method wherein said image data unit comprises image data generated by at least one said row of pixels (it is inherent that image sensor 16 comprises at least one row of pixels) and that said statistical data unit (various data form) comprises statistical data for said image data generated by at least one row of pixels (Col. 2, Ln. 51- Col. 3, Ln.28).

With regarding to **claim 5**, Davis discloses a method wherein said row of pixels is a vertical or horizontal row in said image sensor (the row of pixels is inherently a vertical or horizontal row of the image pickup 16).

With regarding to **claims 7 and 20**, Davis fails to explicitly disclose wherein the camera module and the electronic device are integrated into one single device and that said bus is a device-internal bus.

Official Notice is taken that it is well known and expected in the art to integrate the camera module, the electronic device and the bus into a single multimedia camera chip in order to reduce the space, power constraints and overall cost. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Davis by having the camera module, the electronic device, and the serial bus integrated into one single

device in order to provide an improve image pickup unit and thereby reducing space, power, and overall cost.

As Applicant has not traversed the old and well known statement set forth above, “wherein the camera module and the electronic device are integrated into one single device and that said bus is a device-internal bus” is now taken as admitted prior art. See MPEP 2144.03(c).

With regarding to **claim 8**, Davis discloses a method wherein said transmitted statistical data is used as the generation basis for at least one parameter related to image processing (Col. 2, Ln, 15-68).

With regarding to **claim 9**, Davis discloses a method wherein said at least one image-processing parameter created is used for the processing of the image to be generated (Col. 2, Ln, 15- Col. 3, Ln.29; image-processing parameter is broadly interpreted as watermark or metadata).

With regarding to **claim 10**, Davis discloses a method wherein said at least one image-processing parameter is used for adjusting the image sensor of the camera module to generate image data for the next image (Col. 4, Ln. 50-59; Col. 6, Ln. 19-55).

With regarding to **claim 13**, Davis discloses the same limitations as claimed in claim 2. Therefore, claim 13 is analyzed and rejected as discussed in claim 2.

6. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Shimizu (US-6,515,271).

With regarding to **claim 6**, Davis fails to explicitly disclose wherein said data frame is transmitted from the camera module to the electronic device in the form of a serial synchronized differential signal. However, the limitations are well known in the art as taught by Shimizu.

In the same field of endeavor, Shimizu teaches a CMOS image sensor unit using low voltage differential signaling (LVDS) circuit as means for transmitting image data between transmitting side (CMOS image sensor unit) and the receiving side (CPU and Memory) (Fig. 4-5; Col. 7, Ln. 65-67 – Col. 8, Ln. 1-35). In light of the teaching from Shimizu, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Davis by having a low voltage differential signal circuit to transmits and receives data in order to transmit the data frame from the camera module to the electronic device in the form of a serial synchronized differential signal. The modifications thus provide serial data transmission with low power consumption, less noise interference and less image deterioration (Shimizu ; Col. 2, Ln. 62-67).

With regarding to **claim 14**, Davis fails to explicitly disclose wherein said data transmission means are additionally implemented for transmitting said data frame from the camera module to the electronic device in the form of a serial synchronized differential signal. However, the limitations are well known in the art as taught by Shimizu.

In the same field of endeavor, Shimizu teaches a CMOS image sensor unit using low voltage differential signaling (LVDS) circuit as a mean for transmitting image data between transmitting side (CMOS image sensor unit) and the receiving side (CPU and Memory) (Fig. 4-5; Col. 7, Ln. 65-67 – Col. 8, Ln. 1-35). In light of the teaching from Shimizu, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Davis by having a low voltage differential signal circuit to transmit and receives data in order to transmit the data frame from the camera module to the electronic device in the form of a serial synchronized differential signal. The modifications thus provide serial data transmission with low power consumption, less noise interference and less image deterioration (Shimizu ; Col. 2, Ln. 62-67).

7. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Gindele (US-6,636,646).

With regarding to **claim 21**, Davis discloses a method wherein said collecting of statistical data from said image data performed said camera module (Col. 42-68; wherein statistical data is broadly interpreted as various data form or metadata that are associated with digital image). However, Davis fails to explicitly disclose that said statistical data including image brightness.

In the same field of endeavor, Gindele teaches a digital image processing method for calculating brightness balance value, and transforming a source digital image from different computer using the calculating brightness balance value (Col. 4, Ln. 48-62). Gindele further teaches that the brightness balance value is transmitted as a piece of image meta-data over a network to enable different computer systems to use the transmitted image meta-data to adjust the brightness of the source digital image (Col. 5, Ln. 24-35). In light of the teaching from Gindele, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the device of Davis to transmit brightness balance value as a piece of image metadata in order to enable different computer systems to use the transmitted image meta-data to adjust the brightness of the source digital image (Col. 5, Ln. 24-35).

With regarding to **claim 22**, Davis discloses the device according claim 11, wherein said means for collecting statistical data from said image data is located in said camera module (Col. 42-68; wherein statistical data is broadly interpreted as various data form or metadata that are associated with digital image). However, Davis fails to explicitly disclose that said statistical data including image brightness.

In the same field of endeavor, Gindele teaches a digital image processing method for calculating brightness balance value, and transforming a source digital image from different computer using the calculating brightness balance value (Col. 4, Ln. 48-62). Gindele further teaches that the brightness balance value is transmitted as a piece of image meta-data over a network to enable different computer systems to use the transmitted image meta-data to adjust the brightness of the source digital image (Col. 5, Ln. 24-35). In light of the teaching from Gindele, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Davis to transmit brightness balance value as a piece of image metadata in order to enable different computer systems to use the transmitted image meta-data to adjust the brightness of the source digital image (Col. 5, Ln. 24-35).

Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 571-272-7367. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NGOC YEN VU can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL

07/19/06


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER